

ligand.

35. The method of claim 33, wherein in the absence of the expression vector, the mammalian cell presents substantially no high-affinity melatonin receptor on its surface.

53. A method of testing a candidate compound for the ability to act as an agonist of a high affinity melatonin receptor ligand, said method comprising:

- a) contacting said candidate compound with a cell comprising an expression vector encoding a high-affinity melatonin receptor protein comprising an amino acid sequence substantially identical to SEQ ID NO:12, or a melatonin binding fragment thereof, wherein the cell expresses on its surface said high-affinity melatonin receptor protein or melatonin binding fragment thereof;
- b) measuring intracellular cAMP concentration in said cell; and
- c) where said contacting causes a decrease in intracellular cAMP concentration, identifying said candidate compound as an agonist of a high affinity melatonin receptor ligand.

Add new claims 78-81.

-- 78. A method of testing a candidate compound for the ability to act as an agonist of a high affinity melatonin receptor ligand, said method comprising:

- a) contacting said candidate compound with a cell comprising an expression vector encoding a high-affinity melatonin receptor protein comprising an amino acid sequence substantially identical to SEQ ID NO:6, or a melatonin binding fragment thereof, wherein the cell expresses on its surface said high-affinity melatonin receptor protein or melatonin binding fragment thereof;
- b) measuring intracellular cAMP concentration in said cell; and
- c) where said contacting causes a decrease in intracellular cAMP concentration, identifying said candidate compound as an agonist of a high affinity melatonin receptor ligand. --

-- 79. The method of claim 78, wherein the vector encodes a high-affinity melatonin receptor protein comprising the amino acid sequence of SEQ ID NO:6. --

-- 80. A method of testing a candidate compound for the ability to act as an agonist of a high affinity melatonin receptor ligand, said method comprising:

- a) contacting said candidate compound with a cell comprising an expression vector encoding a high-affinity melatonin receptor protein, wherein the expression vector comprises a sequence that hybridizes under conditions of high stringency to a probe having the sequence of the complement of SEQ ID NO:5;
- b) measuring intracellular cAMP concentration in said cell; and
- c) where said contacting causes a decrease in intracellular cAMP concentration, identifying said candidate compound as an agonist of a high affinity melatonin receptor ligand. --

-- 81. The method of claim 80, wherein the expression vector comprises the sequence of SEQ ID NO:5. --